<u>REMARKS</u>

Claims 1-34 have been examined and have been rejected under 35 U.S.C. § 102(b).

I.   Rejections under 35 U.S.C. § 102(b) in view of U.S. Patent No. 5,537,533 to Staheli et al. ("Staheli")

The Examiner has rejected claims 1-19, 27-29 and 31-34 under 35 U.S.C. § 102(b) as allegedly being anticipated by Staheli.

A.   Claim 1

Applicant submits that claim 1 is patentable over the cited reference. For example, claim 1 recites "a relaying device for relaying data transferred from said first storage unit to said second data storage unit over the communication network, said relaying device being provided in a location that is pre-calculated and different from a location of said first and second storage units, so that, even if said first storage device cannot be operated due to a disaster, the operation of said relaying device can be continued." (emphasis added)

The Examiner contends that the data transfer units 30 and 40 of Staheli disclose the claimed relaying device. However, as shown in at least Figure 1 of Staheli, the data transfer units form a part of the servers 10, 12, respectively. For example, the remote server interfaces 32 and 42 are provided right on a side face of the servers 10 and 12. On the contrary, as set forth in claim 1, the relaying device is provided in a different location than the first and second storage units so that even if the first storage device cannot be operated due to a disaster (i.e., it is destroyed in a fire), the operation of the relaying device can be continued. Since the data transfer

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units 30 and 40 are provided on the respective servers 10 and 12, if a disaster destroys the

servers, the data transfer units will likewise be destroyed. Thus, Applicant submits that the data

transfer units 30 and 40 fail to teach or suggest the claimed relaying device.

At least based on the foregoing, Applicant submits that claim 1 is patentable over the

cited reference.

B.   Claims 2 and 3

Since claims 2 and 3 are dependent upon claim 1, Applicant submits that such claims are

patentable at least by virtue of their dependency.

In addition, claim 3 recites "a plurality of said relaying devices, wherein said data transfer

processing means in said first storage unit simultaneously sends data stored in said first storage

unit to a plurality of said relaying devices."

The Examiner refers to the data transfer units 30 and 40 of Figure 1 of Staheli as

disclosing the plurality of relaying devices. However, as set forth above, claim 3 recites that the

data is sent "simultaneously" to the plurality of relaying devices. In Staheli, the server 10 sends

data only to the data transfer unit 30. The data transfer unit 30 processes the data and then

transfers the data to the data transfer unit 40 via the link 50. Staheli fails to teach or suggest

simultaneous transfer of data to both of the data transfer units 30 and 40.

At least based on the foregoing, Applicant submits that claim 3 is patentable over the cited reference and respectfully requests the Examiner to reconsider and withdraw the rejection.

C.   Claim 4

Since claim 4 contains features that are analogous to the features discussed above for claim 1, Applicant submits that claim 4 is patentable over the cited reference for at least analogous reasons as claim 1.

D.   Claim 5

Applicant submits that claim 5 is patentable over the cited reference. For example, claim 5 recites that a source unit creates at least one redundant data for error correction from original data to be transmitted. Further, the source unit transmits the original data and the redundant data in separate transmission units.

The Examiner maintains that the server 10 of Staheli discloses the claimed source and the server 12 discloses the claimed destination unit. Further, the Examiner refers to Figure 1 and the interfaces 34 and 44 of the data transfers units 30 and 40 of Staheli for the transmission of original data and redundant data. However, Staheli fails to teach or suggest that the server 10 creates and transmits redundant data for error correction that is separate from original data. For example, Staheli teaches that the sever 10 copies data destined for its own local hard disk 16.

The mirrored data is sent to the link interface 34 of the data transfer unit 30, which in turn is then

sent to the data transfer unit 40 and ultimately to the server 12 (col. 14, lines 36-52). The server

10 does not create redundant data for error correction and then send both the redundant data and

the original data to the data transfer unit 30 in separate data transmission units. Rather, as set

forth above, only one data copy is sent from the server 10 to the data transfer unit 30.

At least based on the foregoing, Applicant submits that claim 5 is patentable over the

cited reference and respectfully requests the Examiner to reconsider and withdraw the rejection

of claim 5.

E.   Claims 6-10

Since claims 6-10 are dependent upon claim 5, Applicant submits that such claims are

patentable at least by virtue of their dependency.

F.   Claim 11

Since claim 11 contains features that are analogous to the features recited in claim 5,

Applicant submits that such claim is patentable for at least analogous reasons as set forth above.

G.   Claims 12-16

Since claims 12-16 are dependent upon claim 11, Applicant submits that such claims are

patentable at least by virtue of their dependency.

H.   Claim 17

Applicant submits that claim 17 is patentable over the cited reference. For example, claim 17 recites, "write execution requesting means for sending a delay write execution request to said storage unit of the standby system on receipt from a higher rank device of a restart enabling point notification asserting a restart enabling point for which an application may directly restart operation for prevailing data state."

Applicant submits that Staheli does not disclose the claimed notification of the restart enabling point. In non-limiting embodiments of the present invention, the data in the storage unit of the standby system can be updated by the restart enabling point notification. Thereby, Applicant submits that the claimed notification of the restart enabling point is beneficial so that, even if an abnormality occurs in the host, a short time suffices until the host is able to re-start the processing.

At least based on the foregoing, Applicant submits that claim 17 is patentable over the cited reference.

I.   Claims 18 and 19

Since claims 18 and 19 are dependent upon claim 17, Applicant submits that such claims are patentable at least by virtue of their dependency.

In addition, claim 18 recites that, "the delay write requesting means and the delay write execution requesting means in said storage unit of the operation system asynchronously send a

delay write request and a delayed write execution request to said storage unit of the standby system."

The Examiner refers to column 6, lines 24-34 of Staheli as disclosing the above feature. The cited portion of Staheli merely discloses that the data transfer units 30, 40 are configured to send mirrored data to the remote server (i.e., server 12) within 1 to 10 seconds from the time the mirrored data is received by the primary server interface (i.e., server 10). Such disclosure merely indicates how much time is taken for the data to be stored in the remote server. There is no teaching or suggestion that a delay write-request and a delayed write execution request are sent to the server 12 separately (i.e., asynchronously) as set forth in claim 18.

In view of the above, Applicant submits that claim 18 is patentable over the cited reference and respectfully requests the Examiner to reconsider and withdraw the rejection.

J.   Claims 27 and 29

Since claims 27 and 29 contain features that are analogous to the features discussed above for claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

K.   Claim 28

Since claim 28 contains features that are analogous to the features recited in claim 5, Applicant submits that claim 28 is patentable for at least analogous reasons as claim 5.

L.   **Claim 31**

Since claim 31 is dependent upon claim 1, Applicant submits that such claim is

patentable at least by virtue of its dependency.

M.   **Claims 32, 33 and 34**

Since claims 32, 33 and 34 are dependent upon claim 17, Applicant submits that such

claims are patentable at least by virtue of their dependency.

II.   **Rejections under 35 U.S.C. § 102(b) in view of U.S. Patent No. 6,131,148 to West et**
al. ("West")

The Examiner has rejected claims 20-26 and 30 under 35 U.S.C. § 103(a) as allegedly

being anticipated by West.

A.   **Claim 20**

Applicant submits that claim 20 is patentable over the cited reference. For example,

claim 20 recites, "when the snap shot forming means in said storage unit of the standby system

forms a snap shot, said write requesting means sends a write request to said storage unit of the

standby system after said snap shot forming means completes forming the snap shot."

The Examiner maintains that column 4, lines 7-18 of West discloses the above feature.

However, the cited portion of West merely discloses that the primary subsystem 12 (alleged

operating system) sends a snapshot copy request to the secondary subsystem 14 (alleged standby

system) so that the secondary subsystem 14 can perform a snapshot copy. Upon completion thereof, West discloses that the primary subsystem 12 is signaled as to the completion of the snapshot copy operation. There is, however, no disclosure that upon completion of the snapshot copy operation, a *write request* is sent to a storage unit of the secondary subsystem 14, as recited in claim 20.

In addition, claim 20 recites, "snap shot formation requesting means for sending a snap shot forming request to said storage unit of the standby system on receipt from a higher rank device of a restart enabling point notification asserting a restart enabling point for which an application may directly restart operation for prevailing data state."

Applicant submits that West fails to disclose forming a snap shot at the restart enabling point. Applicant submits that in the non-limiting embodiments of the invention, the restart time is reduced after a disaster by using the restart enabling point.

At least based on the foregoing, Applicant submits that West fails to teach or suggest the features of claim 20 and therefore, Applicant respectfully requests the Examiner to reconsider and withdraw the rejection.

B.   Claims 21-26

Since claim 21 has been canceled, without prejudice or disclaimer, and incorporated in claim 20, Applicant refers the Examiner to the comments presented above.

In addition, Applicant submits that claims 22-26 are patentable at least by virtue of their dependency upon claim 20.

C.   Claim 30

Since claim 30 contains features that are analogous to some of the features discussed above for claim 20, Applicant submits that claim 30 is patentable for at least analogous reasons as claim 20.

III.   Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.
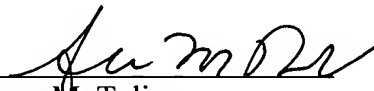
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